

**Application No. 09/976,679**

**Reply to Office action of December 30, 2003**

**Amendments to the Specification**

Please replace paragraph [0039] with the following amended paragraph:

[0039] In employing the device 10, the filter subassembly 14 is delivered on the shaft 12 to a location in a blood vessel 18 distal of an occlusion 20. Through the use of the adapter 118, the filter subassembly 14 is expanded to occlude the vessel distal of the occlusion. Various therapy and other catheters can be delivered and exchanged over the shaft 12 to perform treatment on the occlusion 18. Further details of this exchange are described in assignee's ~~copending application entitled EXCHANGE METHOD FOR EMBOLI CONTAINMENT, Serial No. 09/049,712, filed March 27, 1998~~ U.S. Pat. No. 6,544,276, the entirety of which is hereby incorporated by reference. Because the filter subassembly 14 remains expanded distal of the occlusion 18, any particles broken off by treating the occlusion 20 are trapped within the filter subassembly. These particles may then be removed by contracting the filter subassembly 14 so as to contain the particles and withdrawing the device 10 from the vessel. As an alternative or in addition to this method of particle removal, an aspiration catheter may be delivered over the shaft 12 and used to aspirate some or all of the particles from the filter subassembly 14.

Please replace paragraph [0040] with the following amended paragraph:

[0040] As shown in **FIGURE 1**, the shaft 12 comprises an outer shaft member 22, and a pull wire 24 which extends through the lumen of the outer shaft member. The outer shaft member 22 may comprise a hypotube as is known in the art. Moreover, as described in assignee's copending application entitled STRUT DESIGN FOR AN OCCLUSION DEVICE, Serial No. 09/505,546 filed February 17, 2000, now abandoned, the entirety of which is hereby incorporated by reference, multiple hypotubes may be coaxially disposed over the pull wire 24. The shaft extends from a proximal end distally to the filter subassembly 14. The shaft may be constructed to any desired length, however, it is preferable for the shaft to be between about 120 and 300 cm in length.

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Please replace paragraph [0055] with the following amended paragraph:

[0055] The marker bands 36 are formed from a material having increased radiopacity in comparison to the rest of the filter subassembly, such as platinum, gold, or alloys thereof. In a preferred embodiment, the marker bands comprise an alloy of 80% platinum and 20% iridium. Additional details not necessary to mention here may be found in assignee's copending application entitled VASCULAR FILTERS WITH RADIOPAQUE MARKINGS, Serial No. 09/747,175, filed December 22, 2000, now abandoned, the entirety of which is hereby incorporated by reference.

Please replace paragraph [0058] with the following amended paragraph:

[0058] Alternatively, the membrane 26 may be attached to the struts 28 at one or more points, or in a continuous attachment, between the proximal and distal ends of the membrane. Many other arrangements are possible for the structure and attachment of the membrane 26. Reference may be made to assignee's copending patent applications Serial No. 09/505,554, entitled MEMBRANES FOR OCCLUSION DEVICE AND METHODS AND APPARATUS FOR REDUCING CLOGGING, filed February 17, 2000, now abandoned, and Serial No. 09/788,885, filed entitled MEMBRANES FOR OCCLUSION DEVICE AND METHODS AND APPARATUS FOR REDUCING CLOGGING, filed February 20, 2001, now abandoned, the entirety of each of which is hereby incorporated by reference. As used herein, "filter" and like terms mean any system which is capable of separating something out of a portion of the blood flow within the vascular segment, whether or not there is perfusion through the "filter". "Filtering" and similar terms refer to the act of separating anything out of a portion of the blood flow.

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Please replace paragraph [0061] with the following amended paragraph:

[0061] Further details not necessary to repeat here are disclosed in assignee's copending application entitled OCCLUSION OF A VESSEL, Serial No. 09/374,741, filed August 13, 1999, now abandoned, the entirety of which is hereby incorporated by reference.

Please replace paragraph [0082] with the following amended paragraph:

[0082] Additional details not necessary to repeat here are disclosed in assignee's copending application entitled OCCLUSION OF A VESSEL AND ADAPTER THEREFOR, application Serial No. 09/505,911, filed February 17, 2000, now abandoned, the entirety of which is hereby incorporated by reference.

Please replace paragraph [0086] with the following amended paragraph:

[0086] When moved from the expanded configuration, shown in **FIGURE 1**, into the collapsed configuration, the membrane 26 may not lie in the same profile as it did prior to deployment into the expanded configuration. This is because the membrane is retracted strictly by the action of the struts, and excess folds of material may extend from between the struts in the collapsed configuration. This may cause the profile of the filter subassembly 14 to be larger after retraction than it was prior to deployment. This enlarged profile can cause the membrane 26 to rub against the vessel walls in an undesirable manner. One way to address this difficulty is to use a retrieval catheter as described in Applicant's copending application entitled STRUT DESIGN FOR AN OCCLUSION DEVICE, application Serial No. 09/505,546, filed February 17, 2000, now abandoned, the entirety of which is hereby incorporated by reference.

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Please replace paragraph [0132] with the following amended paragraph:

[0132] Other details regarding construction of balloon guidewire catheters may be found in assignee's U.S. Patent No. 6,068,623, U.S. Patent No. 6,228,072, U.S. Patent No. 6,500,147, and copending applications application entitled ~~FLEXIBLE CATHETER~~, ~~Application Serial No. 09/253,591, filed February 22, 1999, and~~ FLEXIBLE CATHETER WITH BALLOON SEAL BANDS, Application Serial No. 09/653,217, filed August 31, 2000, now abandoned, all of which are hereby incorporated by reference in their entirety.

Please replace paragraph [0133] with the following amended paragraph:

[0133] As illustrated in **FIGURE 25A**, an expandable member such as an inflatable balloon 312 is mounted on the distal end 348 of tubular body 344. In one preferred embodiment, the balloon 312 is a compliant balloon formed of a material comprising a block polymer of styrene-ethylene-butylene-styrene (SEBS), as disclosed in assignee's ~~copending application~~ entitled ~~BALLOON CATHETER AND METHOD OF MANUFACTURE~~, ~~Application Serial No. 09/026,225, filed on February 19, 1998, and in~~ U.S. Patent No. 5,868,705 and U.S. Patent No. 6,554,795, the entirety of both of which are hereby incorporated by reference. The balloon 312 may be secured to the tubular body 344 by any means known to those skilled in the art, such as adhesives or heat bonding. For example, for attachment of a SEBS balloon to a nitinol tube, a primer such as 7701 LOCTITE™ by Loctite Corporation is preferably used along with cyanoacrylate adhesive such as LOCTITE-4011.

Please replace paragraph [0134] with the following amended paragraph:

[0134] The balloon 312 described in the preferred embodiments preferably has a length of about 5 to 9 mm and more preferably about 6 to 8 mm. Other expandable members are suitable for the catheter 344, such as those disclosed in assignee's U.S. Patent No. 6,312,407 and copending applications entitled ~~OCCLUSION OF A VESSEL~~, ~~Serial No. 09/026,106, filed February 19, 1998,~~

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OCCLUSION OF A VESSEL, Serial No. 09/374,741, filed August 13, 1999, now abandoned, OCCLUSION OF A VESSEL AND ADAPTER THEREFOR, Serial No. ~~09/509,911~~ 09/505,911, filed February 17, 2000, now abandoned, MEMBRANES FOR OCCLUSION DEVICE AND METHODS AND APPARATUS FOR REDUCING CLOGGING, Serial No. 09/505,554, filed February 17, 2000, now abandoned, and STRUT DESIGN FOR AN OCCLUSION DEVICE, Serial No. 09/505,546, filed February 17, 2000, now abandoned, the entirety of each of which is hereby incorporated by reference.

Please replace paragraph [0135] with the following amended paragraph:

**[0135]** With reference to **FIGURE 25B**, a core wire 354 is provided inside the lumen 350 and is crimped to the tubular body 344. Coils 356 extend from the distal end of the tubular body 344, surround the core wire 354, and terminate in a distal ball 358. In one embodiment, the core wire may have one or more tapers, and can extend proximally into tubular body 344. Other details regarding the core wire are discussed in assignee's ~~copending application entitled CATHETER CORE WIRE~~, Serial No. ~~09/253,971~~, filed February 22, 1999 U.S. Patent No. 6,355,016, the entirety of which is hereby incorporated by reference.

Please replace paragraph [0143] with the following amended paragraph:

**[0143]** Other inflation adapter/inflation syringe assemblies may also be used. Also, the adapter 320 can have additional features, such as a safety lock provided on the actuator knob 394 to prevent accidental opening when the adapter is being used and the catheter valve is open. In addition, the adapter can be provided with an overdrive system to overdrive a sealing member into a catheter. Details of these features and other inflation assemblies may be found in assignee's U.S. Patent No. 6,050,972 and copending applications, SYRINGE AND METHOD FOR INFLATING LOW PROFILE CATHETER BALLOONS, Application Serial No. 09/025,991, filed February 19, 1998, now abandoned, and LOW VOLUME SYRINGE AND METHOD FOR INFLATING

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SURGICAL BALLOONS, Application Serial No. 09/195,796, filed November 19, 1998, now abandoned, all of which are incorporated by reference in their entirety.

Please replace paragraph [0144] with the following amended paragraph:

[0144] The occlusion system described above advantageously enables an exchange of catheters over a guidewire while an occlusive device isolates particles within the blood vessel. For example, a therapy catheter can be delivered over the guidewire to perform treatment, and then be exchanged with an aspiration catheter to remove particles from the vessel. Further details of this exchange are described in assignee's ~~copending application entitled EXCHANGE METHOD FOR EMBOLI CONTAINMENT, Serial No. 09/049,712, filed March 27, 1998~~ U.S. Patent No. 6,544,276, the entirety of which is hereby incorporated by reference.

Please replace paragraph [0159] with the following amended paragraph:

[0159] Further details of this construction are described in Applicant's copending provisional application entitled METHOD AND APPARATUS FOR INFLATING SMALL BALLOONS, Serial No. 60/329,032, filed on the same date as the present application, the entirety of which is hereby incorporated by reference.